

ABSTRACT OF THE DISCLOSURE

To improve the execution performance of a program which makes indirect array reference by performing data prefetching also on an indirect reference array while reducing an instruction overhead, locality in data reference which cannot be detected by a conventional compiler is enabled to be detected by a user instruction or analysis by a compiler on the basis of a tendency that values of indices in an indirect reference array monotonously increase or decrease. By using the information, issuing of redundant prefetch instructions is suppressed, and data prefetching is enabled to be performed also on an indirect reference array.